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Eastern Tropical Pacific Seascape Training

Module 8:

ZONING, SITE-PLANNING & DESIGN



Today's topics

- **Zoning for tourism**
- **Site planning & design**
- **Coastal construction & erosion**

Zoning for tourism

What is zoning?
Why zone?



Do you need a new zoning scheme?

Do you zone?

Is the zoning scheme "working"?

Basic zones for MPAs

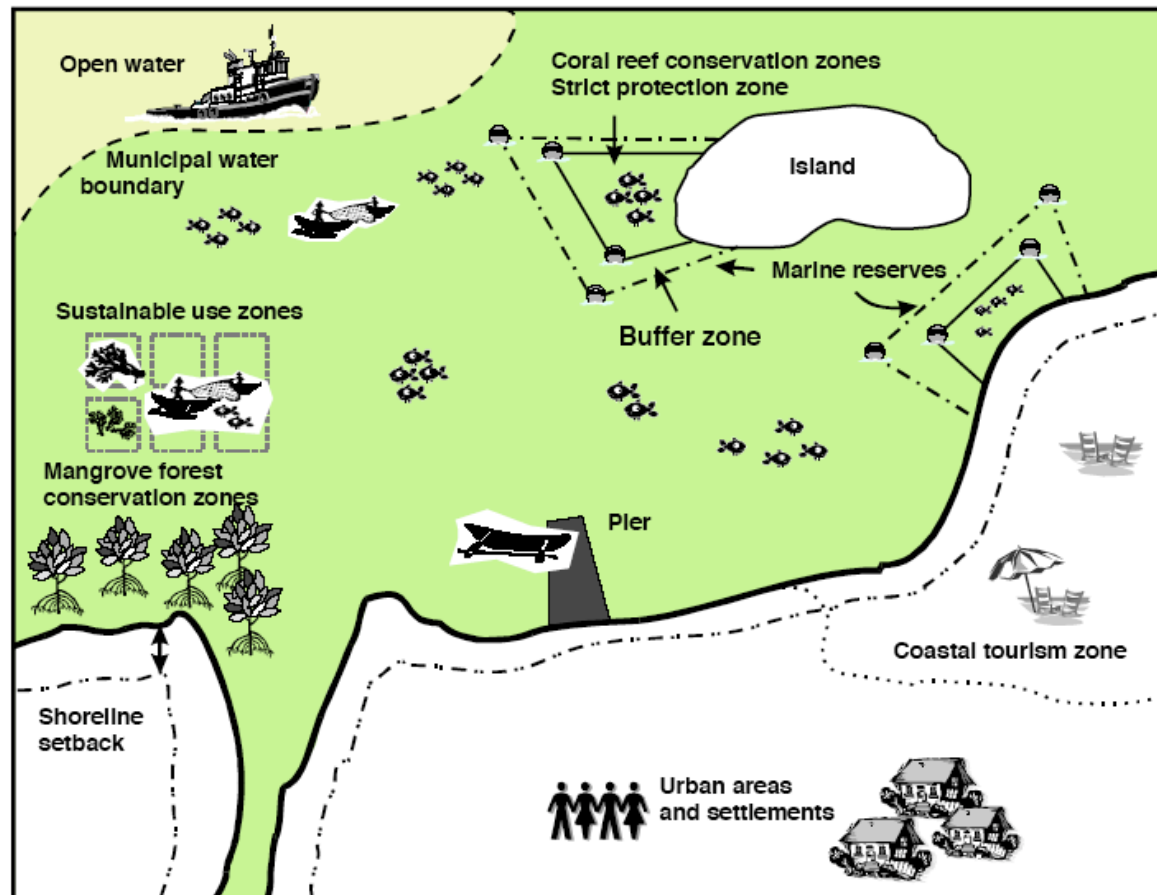


Figure 11: Illustrative zoning and resource use plan for the coastal area and municipal waters (not to scale)

Basic zones for MPAs

Core zones / sanctuaries



Basic zones for MPAs

Buffer zones / limited use



Basic zones for MPAs

Intensive use

- Large-scale fishing
- Intensive water sports
- Large numbers of visitors



Separating user conflicts

1. Conservation vs. traditional local fishing rights

Offer compensation for rights removed -

Management responsibilities

Exclusive rights to buffer zones

Other assistance (e.g. loans for new gear)

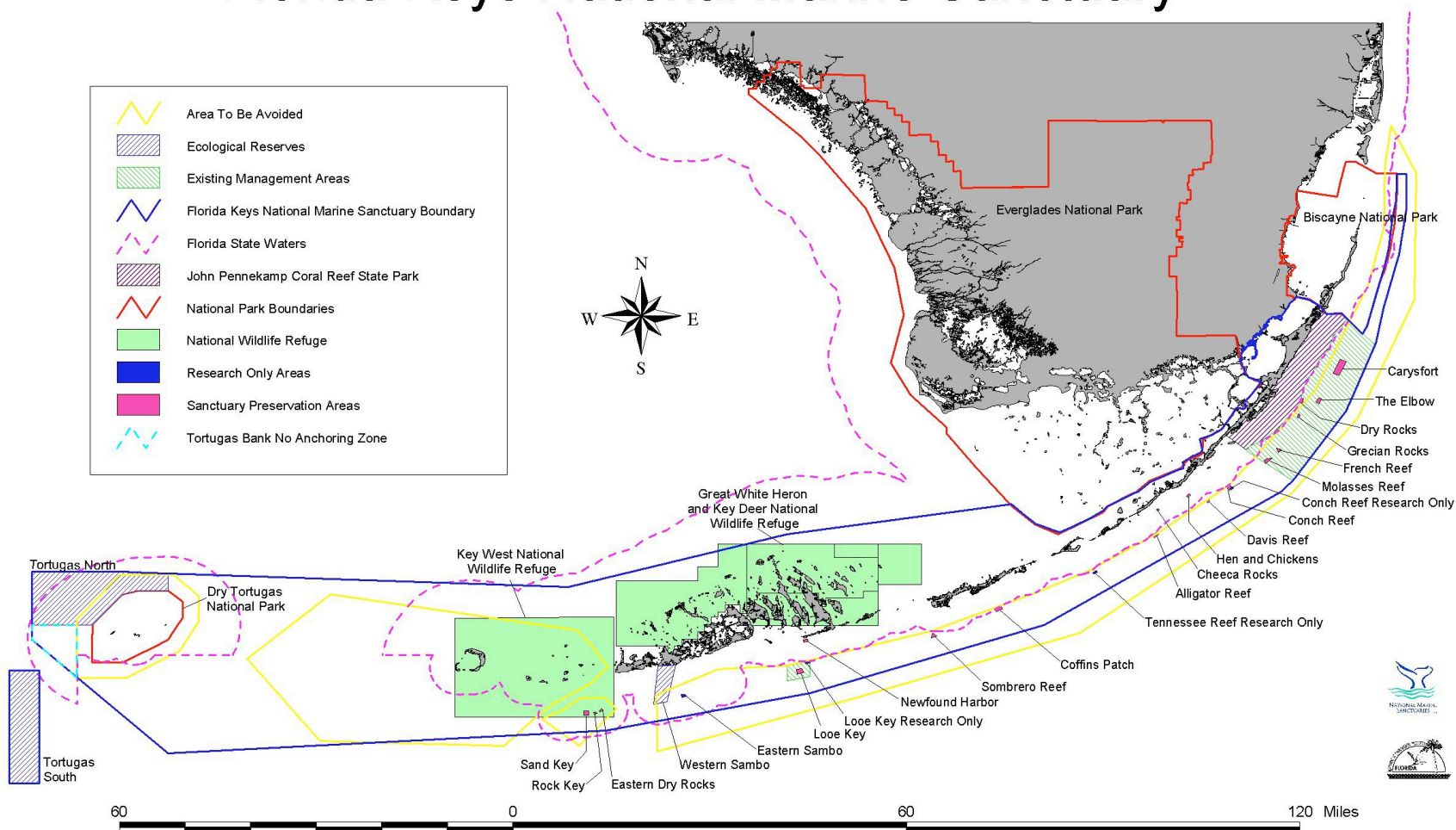
Separating user conflicts

2. Incompatible tourist uses "Peaceful/observational" vs. "water sports"



Case study: Florida Keys

Florida Keys National Marine Sanctuary



Zoning for "high-end" vs "low-end tourists

High-impact:

May spend more

Expect more entertainment

Higher impact...

...may stay in smaller area



Low-impact:

May spend less

Expect less "entertainment

Lower impacts...

... may cover larger area



Zoning Attributes & Format

Zoning Attributes

biophysical

social

administrative

Zoning format

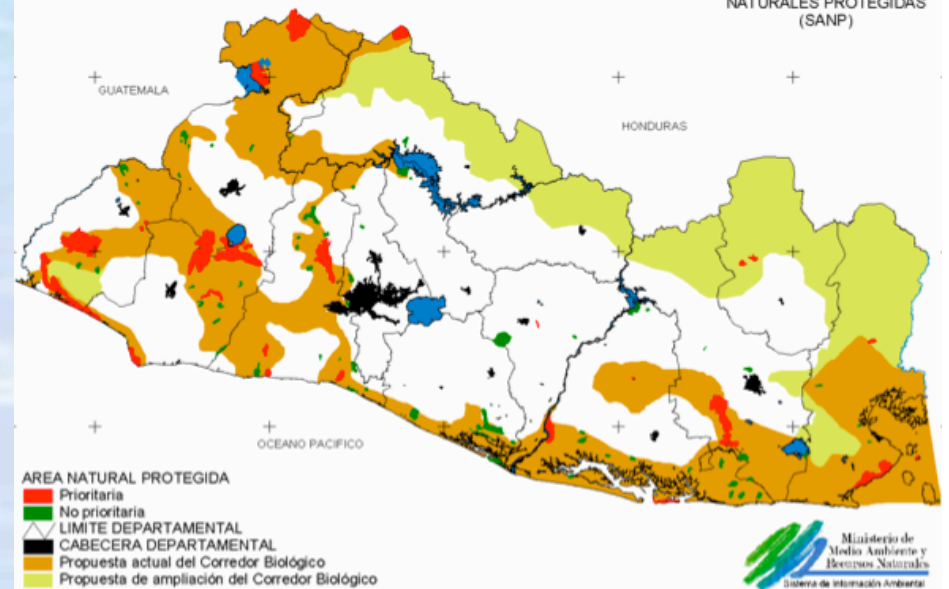
name

objective

description

boundaries

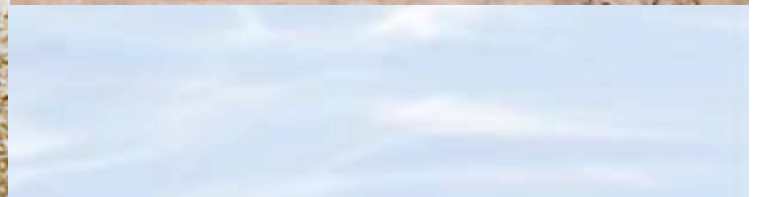
rules



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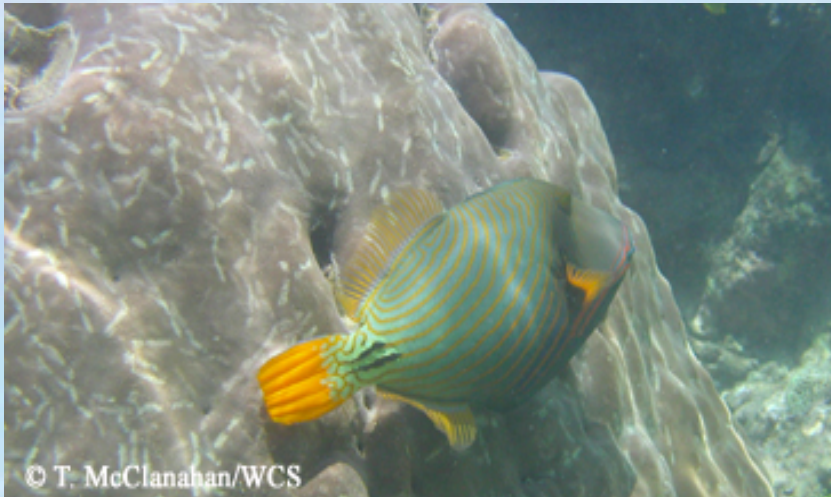
Zoning case study: Turtle Islands



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Zoning Case Study: Kenya



Zoning case study: Bunaken



Exercise: Zoning in your MPA

Discuss & revise

Using maps & inventories from previous modules

SITE-PLANNING & DESIGN

Initial Visitor Site Planning

What is a "visitor site"?

What zones allow it?

Siting infrastructure for visitor sites

Considerations:

capacity

density

impacts on wildlife

views for visitors

natural hazards

energy & utilities

visitor circulation & trails

conflicting uses

how to monitor impacts

aesthetics

Landscaping & vegetation for visitor sites

Retain native vegetation

Use trees for shade, visual blocking, etc.

Avoid need for irrigation



Exercise: Siting in your MPA

Does your MPA have a terrestrial component?

If so, does it have lodging, visitor centers or other structures?

Where? Why?

Where would you site new visitor centers or structures?

COASTAL CONSTRUCTION

Negative impacts of coastal construction:

Shoreline erosion

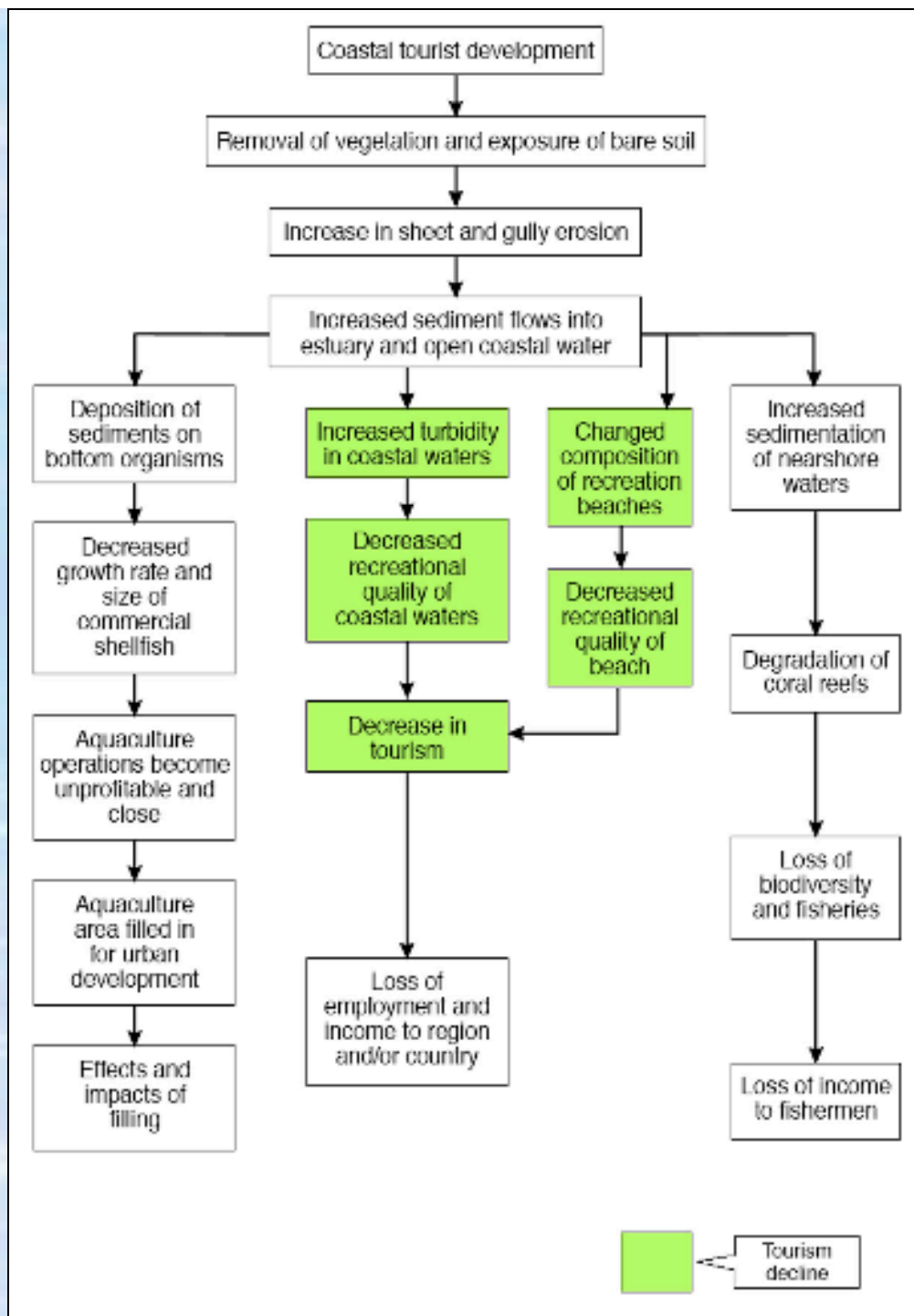
Turbidity & sediment

Choking of corals

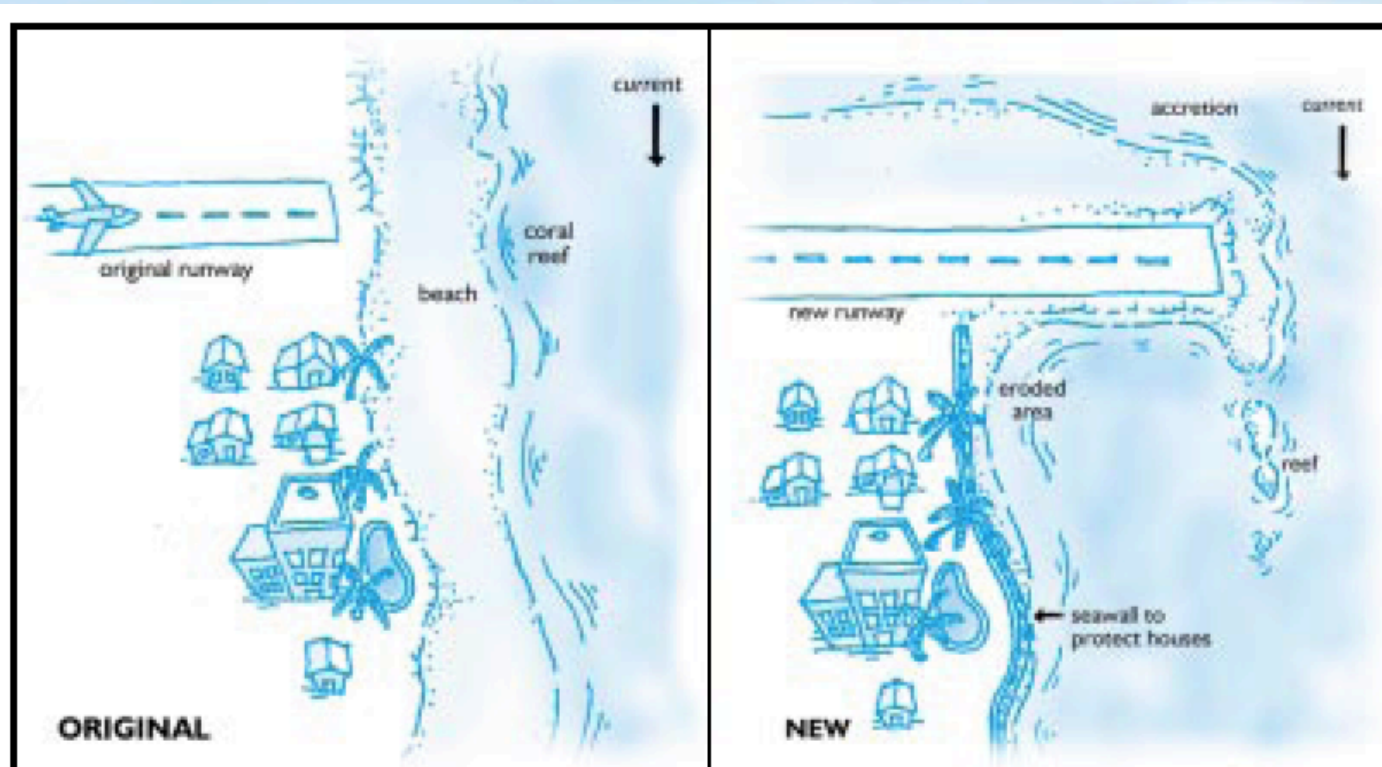
Eventual decline in tourism

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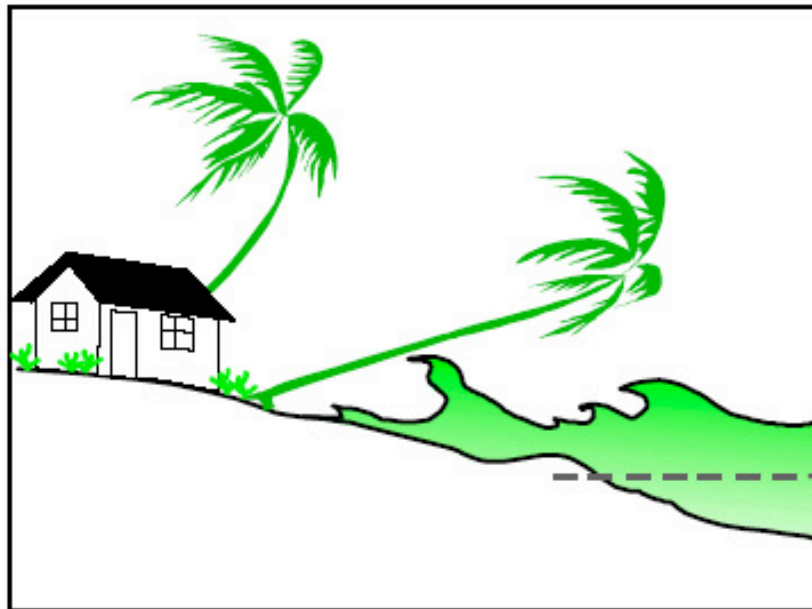


Risk of erosion & beach loss

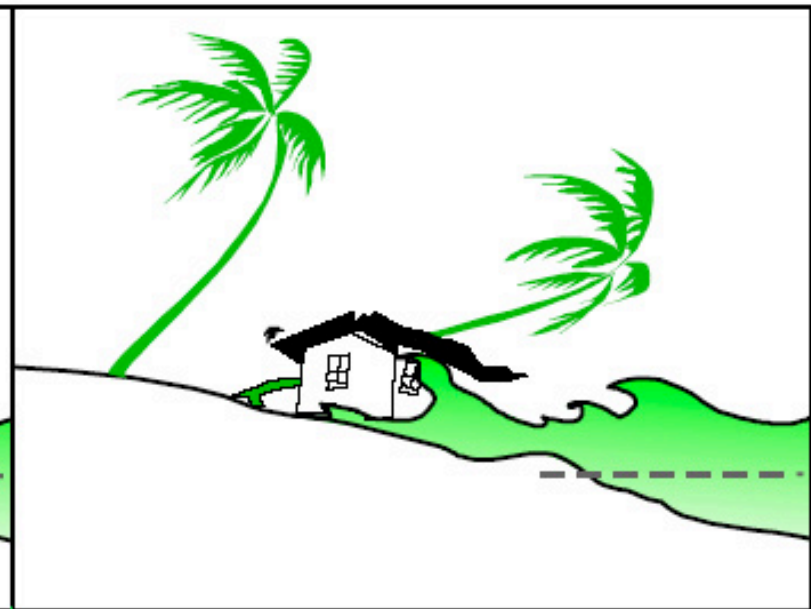


Setbacks

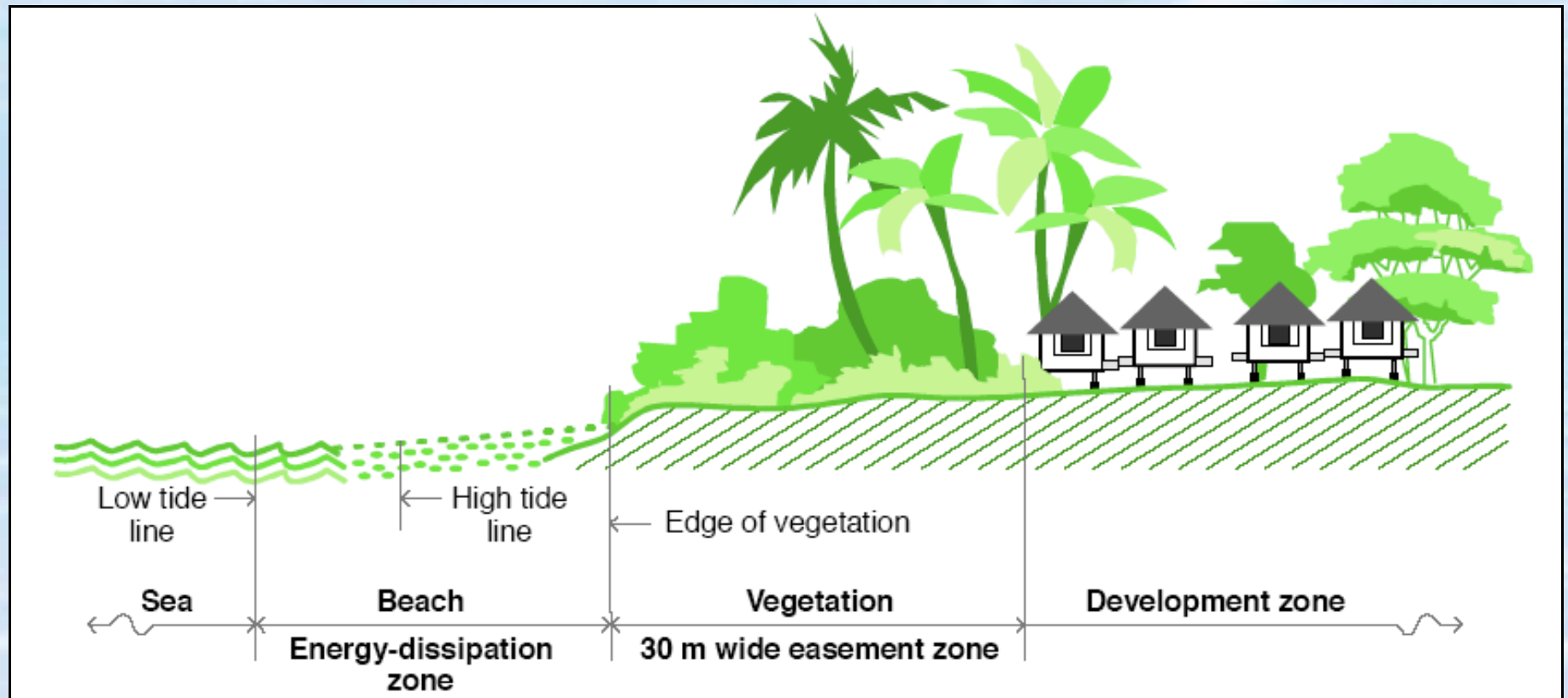
Setback



No setback



Setbacks



Solutions to beach erosion



Seawalls: temporarily protect structure behind wall
accelerate loss of beach in front of wall
eventually will be undermined

"Solutions" to beach erosion



This seawall caused complete loss of a sandy beach

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"Solutions" to beach erosion

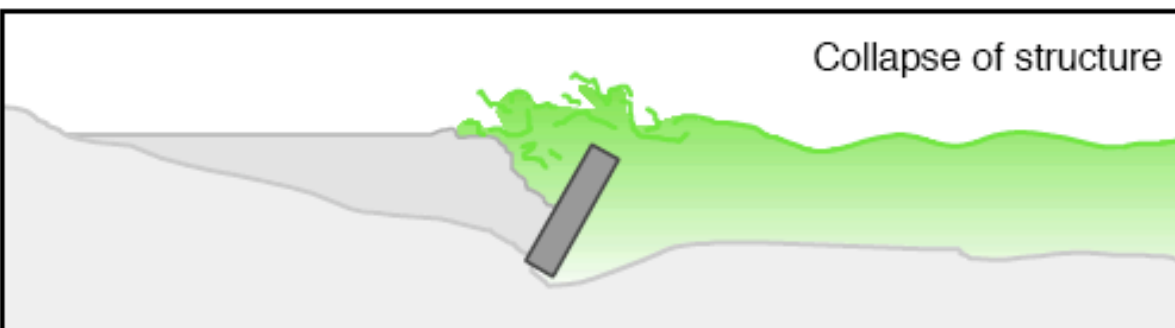
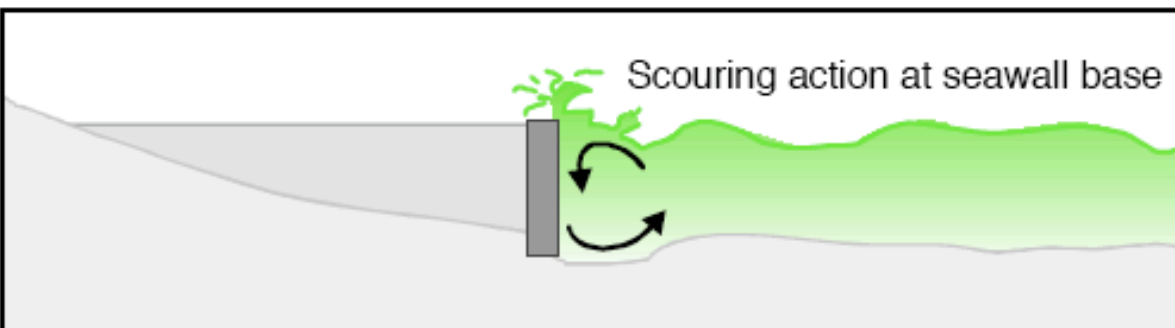
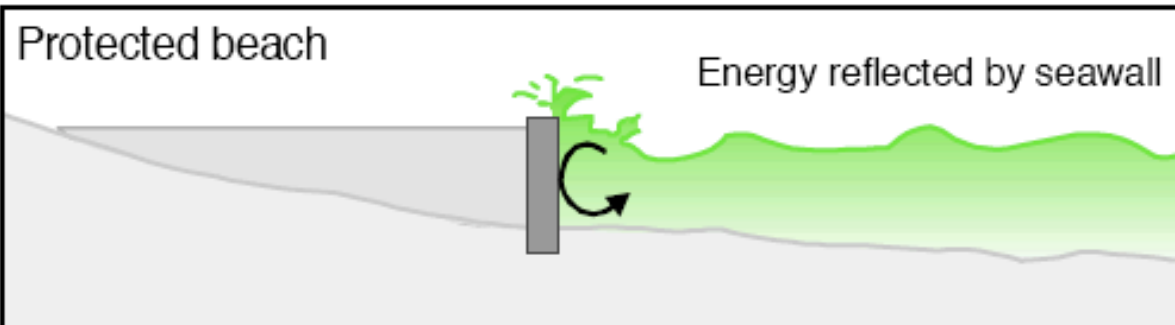
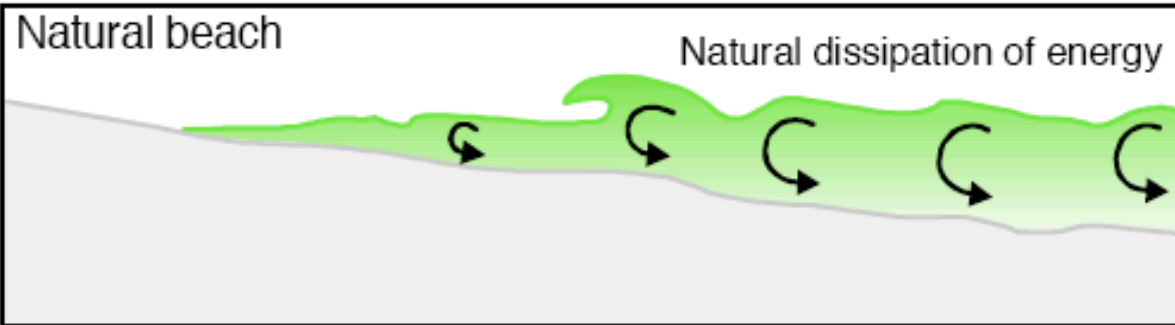


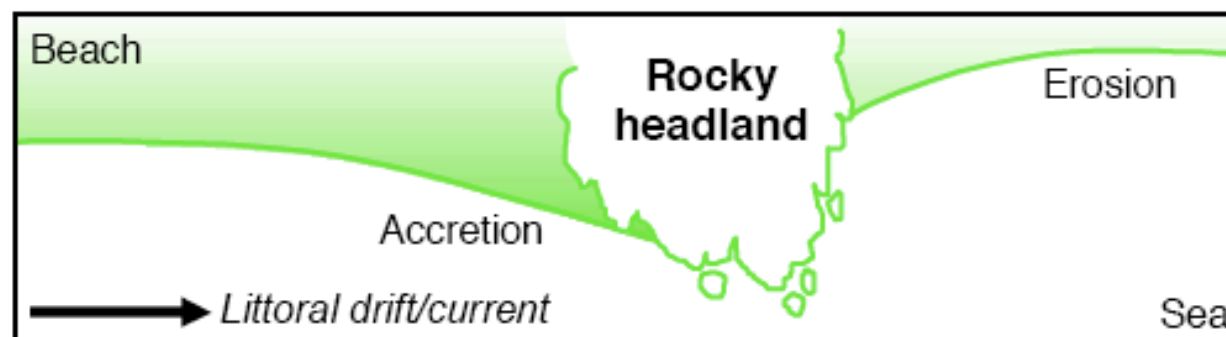
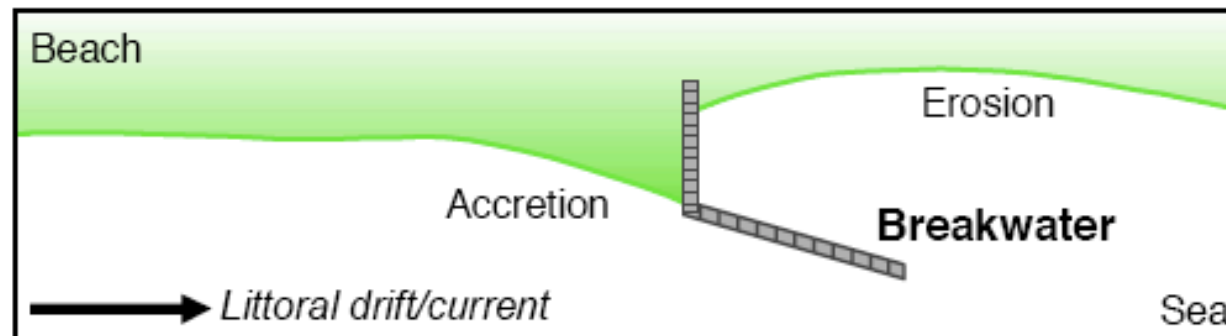
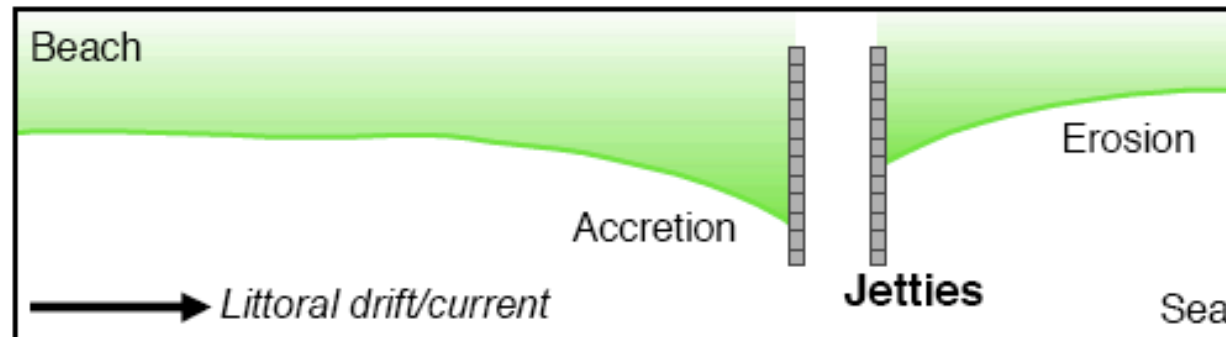
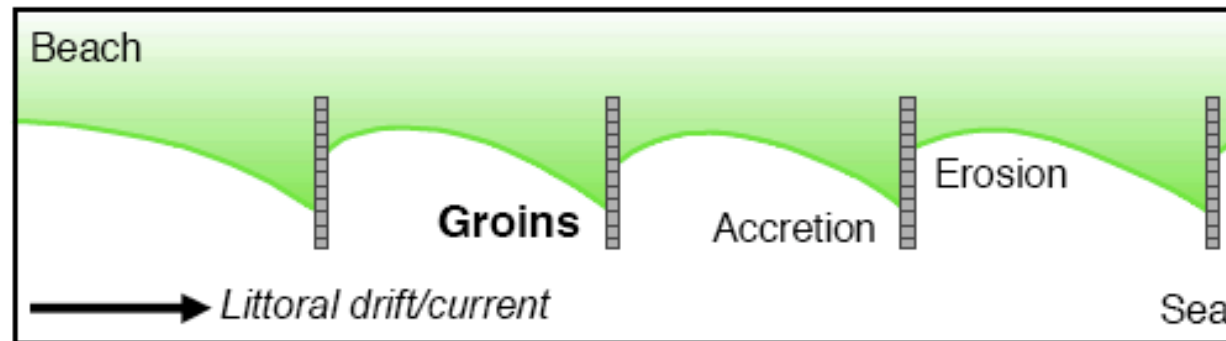
Eventual seawall failure



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Discussion: Coastal Construction



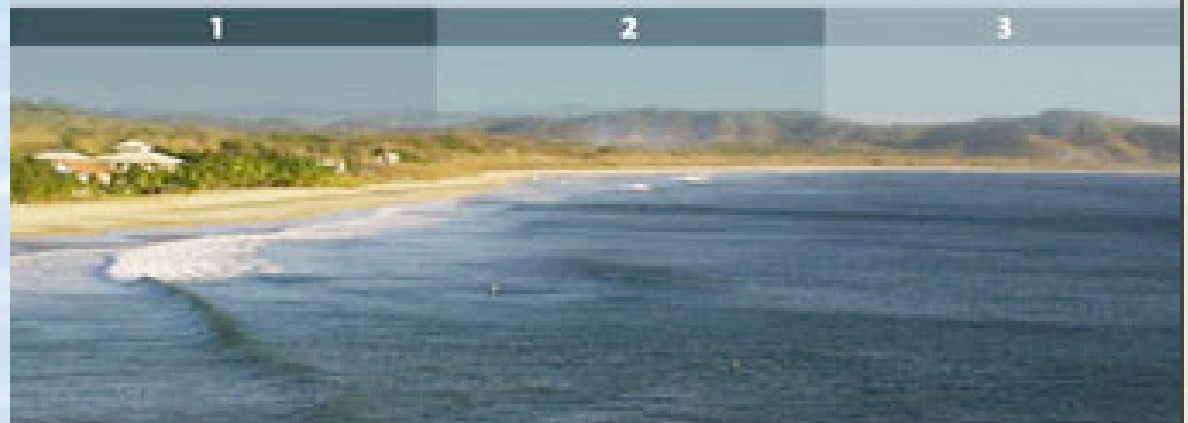
**Beach development,
Thailand**

Development at Las Baulas Turtle Sanctuary, Costa Rica

Area 1, in the north, is heavily developed, with houses right up to the 50 m zone.

Area 2, the center of the beach, is open.

Area 3, to the south, has houses mostly set back from the beach, as well as a hotel.



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Review & Next Steps

